SOV/180-59-2-14/34

Atomic Scattering of X-Rays on Solid Solutions of Copper with Nickel

inside was prevented by using some of the nitrogen from
the liquid gas used to cool the specimens. No deviation
from additivity within the limits of the experimental
errors was found. Replacement of solvent atoms in the
solid solution by copper or nickel had little effect on
the scattering power of the alloy lattice-junctions:
for this reason when considering static displacements in
these alloys the authors needed only to compare the
atomic scattering functions of the pure metal and the
solid solution based on it under the appropriate
conditions. The required data were obtained by the
substitution method. Table 2 shows the lattice constants
and compositions of the alloys and other data.
Comparison of experimental with theoretical data
calculated for additivity with allowance for the
Card 2/3 dispersion effect shows that in the solid solutions
studied no deviation is found of atomic functions

Atomic Scattering of X-Rays on Solid Solutions of Copper with Nickel
SOV/180-59-2-14/34
associated with static displacement of atoms in the
crystal lattice.
There are 1 figure, 2 tables and 6 references, 5 of
which are Soviet and 1 English.

SUBMITTED: October 6, 1958

Card 3/3

AUTHOR: Guseva, L.N. (Moscow)   SOV/180-59-6-9/31

TITLE: Static Distortions of the Crystal Lattice of Copper-
          Based Solid Solutions

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
          nauk, Metallurgiya i toplivo, 1959, Nr 6, pp 66-72 (USSR)

ABSTRACT: Copper - aluminium and copper - tin solid solutions were
          investigated. The compositions and calculated values of
          the mean static displacements (U_{CT}) are given in Table 1.
          The alloys were melted under a flux and then homogenised
          at 800 °C for 10 days. In tables 2 and 3, results of
          the mean values of I/At_{alloy} to I/At_{copper} are given
          where I is the intensity of reflection, A the
          absorption index, and t the exposure time. From the
          results, the influence of two effects can be seen -
          extinction and static displacements. The first has the
          greatest effect for (111) and (200) reflections, and the
          influence of the second increases with reflections of
          higher order. For the Al-Cu alloy the experimental
          values for the atomic functions f^2 alloy/f^2 copper agree
          with the calculated values. Thus the effect of

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1/2

Static Distortions of the Crystal Lattice of Copper-based Solid
Solutions   SOV/180-59-6-9/31

extinction is the same for the alloy and for copper.
Since the experimental and calculated values also agree
for higher orders (420), static displacement must not
influence the intensity of this reflection.   Similar
results were obtained for the copper – tin alloy.
There are 4 tables and 11 references, of which 4 are
English, 6 Soviet and 1 German.

SUBMITTED: March 4, 1959

Card 2/2

24(7), 18(1)

AUTHORS:

Guseva, L. N.,   Babareko, A. A.   SOV/2o-124-4-16/67

TITLE:

The Anisotropy of the Broadening of the X-Ray Diffraction
Maxima of Solid Solutions of Copper After a Deformation
(Anizotropiya rasshireniya rentgenovskikh difraktsionnykh
maksimumov tverdykh rastvorov medi posle deformatsii)

ABSTRACT:

It was of interest to estimate the magnitude of the regions
of coherent dispersion in various crystallographic   direc-
tions in the crystal lattice of an alloy of Cu with
13 atom-% Al after a deformation caused by filing. The dimen-
sions of the submicro-regions in the direction $\langle 111 \rangle$ were
determined with an accuracy of $\pm 10\%$. The diffraction spectra
were recorded automatically by means of the device URS-50-I
with a filtered iron-radiation and by recording in a KMSP-
chamber with a monochromatic $FeK\alpha_{1,2}$-radiation (with follow-
ing photometrization). The width $B = \int I/I_{max}$ of the lines
was measured. A formula for calculating the broadening caused
by the dispersivity of the regions of coherent dispersion of

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SOV/2o-124-4-16/67

The Anisotropy of the Broadening of the X-Ray Diffraction Maxima of Solid Solutions of Copper After a Deformation

the reflections 200, 220, and 311 is given. The elasticity moduli E_{hkl} were calculated by the authors from the previously published (Ref 7) elastic constants for an aluminum-copper-alloy of similar composition. A table gives the true width of lines in radians and the herefrom calculated average dimensions D_{hkl} of the regions of coherent dispersion and the anisotropy-coefficients $A_D = D_{hkl}/D_{111}$ with and without consideration of the anisotropy of the elastic microdeformation:

hkl	β in radians$\cdot 10^3$	D_I in $\overset{o}{A}$	D_{II} in $\overset{o}{A}$	A_{D_I}	$A_{D_{II}}$	$\dfrac{E_{hkl}}{E_{111}}$
111	17	160	160	1.0	1.0	1.00
200	39	100	60	0.6	0.4	0.31
220	41	110	100	0.7	0.6	0.64

The relations between the sizes of the regions of coherent dispersion in various directions $\langle hkl \rangle$ may perhaps depend on the character of the processes developing during deforma-

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SOV/20-124-4-16/67

The Anisotropy of the Broadening of the X-Ray Diffraction Maxima of Solid Solutions of Copper After a Deformation

tion. It was interesting to determine the dimensions of the regions of coherent dispersion into various crystallographical directions for a metal with isotropic elastic properties. Tungsten was chosen as a metal to be deformed by filing. The dimensions of the regions of coherent dispersion in the directions $\langle 110 \rangle$, $\langle 100 \rangle$ and $\langle 211 \rangle$ are given by a table. Within the limits of a measuring accuracy of $\pm 10\%$ no anisotropy of tungsten after filing could be observed. The results obtained by the present paper are of methodical importance for the investigation of extinction- and diffraction-dependent broadening of the reflections of the X-ray spectrum of deformed metals. There are 2 tables and 8 references, 4 of which are Soviet.

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Institute for Metallurgy imeni A. A. Baykov of the Academy of Sciences, USSR)

PRESENTED: March 24, 1958, by I. P. Bardin, Academician

SUBMITTED: March 18, 1958

Card 3/3

S/180/60/000/005/024/033
E021/E106

AUTHORS: Babareko, A.A., and Guseva, L.N. (Moscow)

TITLE: The Structure and Strengthening of Copper by the
               Formation of Solid Solutions

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh
               nauk, Metallurgiya i toplivo, 1960, No.5, pp. 186-189

TEXT: The fine structure of deformed copper and copper
solid solutions with zinc (3-25%), aluminium (4-13%), silicon
(4.7%), tin (5.7%), antimony (0.6-1.3%), and nickel (11-52%) was
investigated by X-ray methods. Samples were prepared from high
quality materials under flux, and homogenised at 800 °C for 100 h.
All the samples were single phased at room temperature (the
decomposition of the Al-5.7% Sn alloy is very slow at room
temperature). Diffraction spectra were taken and the broadening
of the reflections after deformation was examined. The
dimensions of the regions of coherent scattering and the residual
elastic microdeformation were estimated from the results. The
resistance to plastic deformation of the samples after

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S/180/60/000/005/024/033
E021/E106

The Structure and Strengthening of Copper by the Formation of
Solid Solutions

deformation was estimated by hardness measurements, It was shown
that an increase in concentration of an alloying element resulted
in a greater degree of breaking up of the structure during
deformation and an increase in hardness, An increase in the
difference in atomic sizes of the elements forming the solid
solution has the same effects,   The close relationships between
hardness and lattice distortion were demonstrated, Alloys with
similar hardness values also had similar regions of coherent
scattering of X-rays, The results are explained in terms of
dislocation theory, Both the degree of breaking up of the coherent
regions and the residual deformation of these regions are connected
with the number of dislocations and the character of their
distribution in a deformed crystal, Thus the resistance to
deformation of the investigated alloys is determined more by the
characteristics of the atomic mechanism of plastic flow than by
the strength of the interatomic bonds in the lattice,

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S/180/60/000/005/024/033
E021/E106

The Structure and Strengthening of Copper by the Formation of
Solid Solutions

There are 2 figures, 1 table and 12 references: 6 Soviet and
6 non-Soviet.

SUBMITTED: February 9, 1960

Card 3/3

GUSEVA, L.N.

18.8200   187510

AUTHORS: Guseva, L.N. and Babareko, A.A.

TITLE: The Fine Crystal Structure and the Mechanism of Plastic Deformation of Solid Solutions Based on Copper

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol. 10, No. 2, pp 269 - 271

TEXT: An earlier investigation was carried out on the different state of the crystal lattice of copper and its solid solutions with zinc after filing (Ref. 2). The broadening of the X-ray reflections obtained from solid solutions was much greater than for copper. Quantitative measurements have been carried out on the breadth of the lines obtained from powdered copper and alloys of copper with zinc, aluminium and tin to investigate the influence of various factors on the breadth of the line. 111 and 222 reflections were examined. The results are given in the table with the actual breadth of the reflections in the second and third columns and the percentage broadening on account of dispersion of the regions of coherent scattering and microstresses in the fourth and fifth columns, respectively. The dimensions of the regions of coherent dispersion D and their relative residual

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S/126/60/010/02/013/020
E021/E335

The Fine Crystal Structure and the Mechanism of Plastic Deform-
ation of Solid Solutions Based on Copper

microdeformation $\Delta a/a$ are given in the next two columns. It
can be seen that the solid solutions show a considerable
decrease in dimensions of the regions of coherent dispersion
compared with pure copper. These regions are the smaller, the
greater the percentage of alloying element and the greater the
difference in atomic diameters of copper and the element. This
shows that in the case of alloys of copper, there is an increase
in the number of elementary acts of plastic flow.
There are 1 table and 5 Soviet references.

ASSOCIATION: Institut metallurgii AN SSSR (Institute of
              Metallurgy of the Ac.Sc., USSR)

SUBMITTED: July 25, 1959

Card 2/2

RABINOVICH, Yu.I.; GUSEVA, L.N.

Experimental investigation of spectral transparency of the
atmosphere.   Trudy GGO no.118:69-76 '61.   (MIRA 14:8)
(Atmospheric transparency)

VOL, Abram Yevgen'yevich; AGEYEV, N.V., red.; ABRIKOSOV, N.Kh., doktor
     khim.nauk, red.; KORNILOV, I.I., doktor khim.nauk, red.;
     SAVITSKIY, Ye.M., doktor khim.nauk, red.; OSIPOV, K.A., doktor
     tekhn.nauk, red.; GUSEVA, L.N., kand.khim.nauk, red.;
     MIRGALOVSKAYA, M.S., kand.khim.nauk, red.; SHKLOVSKAYA, I.Yu.,
     red.; MURASHOVA, N.Ya., tekhn.red.

     [Structure and properties of binary metallic systems] Stroenie
     i svoistva dvoinykh metallicheskikh sistem. Pod rukovodstvom N.V.
     Ageeva. Moskva, Fizmatgiz. Vol.2. [Systems of vanadium, bismuth,
     hydrogen, tungsten, gadolinium, gallium, hafnium, germanium, holmium,
     dysprosium, europium, iron] Sistemy vanadiia, vismuta, vodoroda,
     vol'frama, gadoliniia, galliia, gafniia, germaniia, gol'miia, dispro-
     ziia, evropiia, zheleza. 1962. 982 p.   (MIRA 15:5)

     1. Chlen-korrespondent AN SSSR (for Ageyev).
       (Alloys)   (Systems (Chemistry))   (Phase rule and equilibrium)

S/180/62/000/002/007/018
E193/E383

AUTHORS: Guseva, L.N. and Babareko, A.A. (Moscow)

TITLE: Factors affecting solid-solution hardening of alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no. 2, 1962, 78 - 83

TEXT: The results of an earlier investigation (Ref. 1 - the authors - Izv. AN SSSR, OTN, 1960, no. 5, 186) had shown that the degree of homogeneity of plastic flow of solid solutions increases with increasing concentration of the solute atoms and with increasing difference in the size and chemical factor of the alloy components. It had also been postulated that instead of relating strength of copper-base alloys to atomic-bond forces, it could be related to the variation in the mechanism of plastic flow.- hence the present investigation, in which the relationship between the mechanism of plastic flow of various copper-base solid solutions and their resistance to deformation was studied. The experimental materials comprised
Card 1/.

Factors affecting ....

S/180/62/000/002/007/018
E193/E383

copper and binary copper alloys containing 3 - 24.8% Zn, 4.7 or 12% Al, 4.0% Si, 5.6% Sn, 0.5 or 4.25% Sb and 12 or 29.5% Ni. All the test pieces were homogenized by holding for 100 hrs at 800 ^{o}C and then were cold-rolled to 20, 50 or 80% reduction (with or without subsequent annealing at 600 ^{o}C) after which hardness measurements were taken under 5- and 10-kg loads. The experimental results of the present investigation and data on the character of plastic deformation from Ref. 1 were used to construct graphs relating hardness of various specimens to, so-called, volume and chemical factors and to the limit degree of dispersion of the normal regions of coherent scattering, $1/D$, inherent in each alloy, which could be attained in powder specimens prepared by filing. The latter relationship is represented by a graph reproduced in Fig. 1, where the hardness $(H_v, kg/mm^2)$ of various alloys (as listed in the legend) is plotted against $1/D \times 10^{-4} cm^{-1}$. Analysis of these and other results led to the conclusion that elastic and chemical interaction between active dislocations and solute atoms is

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S/180/62/000/002/007/018
E193/E383

closely associated with the change in the character of plastic
flow caused by alloying and with work-hardening of solid
solutions. The results of the present investigation indicate
that in the case of different solid solutions based on a given
metal, the effect of the solute atoms on the mechanical
properties of the solid solution at various stages of the
deformation process varies from one alloying element to another.
Solid solutions containing solute atoms which are characterized
by strong elastic interaction with dislocations will have
maximum resistance to flow in the early stages of the deformation
process. Solute atoms exhibiting a strong tendency to localized
chemical interaction will on the other hand, ensure a high
resistance to deformation at high degrees of plastic deformation.
There are 4 figures.

SUBMITTED: June 12, 1961

Card 3/❸ 3

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S/180/62/000/004/007/009
E111/E183

AUTHORS: Guseva, L.N., and Babareko, A.A.   (Moscow)

TITLE: Substructure of deformed chromium

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
tekhnicheskikh nauk. Metallurgiya i toplivo, no.4,
1962, 153-156

TEXT: In continuation of their earlier work (Zh. neorg.
khimii, v.7, no.9, 1962, and Izv. AN SSSR, OTN, Metallurgiya i
toplivo, no.2, 1962, 78) the present authors thought it desirable
to study the deformation-induced substructure of chromium, not
only because of its low plastic properties and high values of its
bond-strength characteristics, but also because it belongs to a
sub-group of metals with almost isotropic properties. In the hope
that data on the extent of distortion along the different
crystallographic directions in a lattice with isotropic properties
would give indications of the geometry of elementary plastic
effects, they studied by X-ray diffraction filings of chromium
with a hardness (Vickers) of about 80 kg/mm^2, vacuum annealed
chromium powder being used as a standard. The measured
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Substructure of deformed chromium.   S/180/62/000/004/007/009
E111/E183

microstrains were found to be larger than the maximum (calculated)
values of those associated with the presence of single, randomly
distributed dislocations, or those which could be regarded as
residual elastic strains. The work shows, inter alia, that
deformation of chromium occurs mainly by the generation and
movement of linear dislocations. Brittle failure of chromium
could be attributed to localised concentration of dislocations on
widely separated planes of slip. This aspect needs further
investigation.
There is 1 table.

SUBMITTED: October 21, 1961

C   ı 2/2

S/180/62/000/006/008/022
E021/E151

AUTHORS: Guseva, L.N., and Babareko, A.A.   (Moscow)

TITLE: Dislocation structure of some deformed metals and
            alloys

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
            tekhnicheskikh nauk. Metallurgiya i toplivo, no.6,
            1962, 98-102

TEXT: Investigations were carried out on chromium, copper and
copper-base solid solutions after deformation by filing. The
characteristics of the substructure, D (the size of the regions of
coherent reflection) and $\Delta a/a$ (the value of non-uniformity of
the lattice parameter or the so-called microdeformation of the
lattice) were obtained from the breadth of X-ray reflections. The
density of the dislocations was calculated and their distribution
was shown. The true dislocation density for copper was
5×10^{11} cm^{-2}. For solid solutions of copper with zinc, aluminium,
silicon, tin, antimony or nickel, the dislocation density did not
change markedly and was within the limits $3 - 7 \times 10^{11}$ cm^{-2}.
During deformation, a polygonised structure was obtained. When
Card 1/2

Dislocation structure of some ...   S/180/62/000/006/008/022
                                           E021/E151

solid solutions were formed, the presence of foreign atoms in the
lattice decreased the degree of polygonisation and in some cases
resulted in random distribution of dislocations with no change in
density. In the case of chromium, the true dislocation was less
than 1.3×10^{11} cm^{-1}. It was considered that the difference in
distribution of the dislocations in copper and its alloys indicated
different mechanisms of plastic flow which might be related to the
mechanism of the relaxation accompanying deformation. In pure
copper, relaxation of the stress fields around dislocations led to
redistribution of dislocations during the process of deformation.
In copper solid solutions, relaxation of stresses proceeded by
interaction of dislocations with impurity atoms and the formation
of Cottrell atmospheres around dislocations. Thus, X-ray data on
substructure of deformed crystals can be used for showing the
inter-atomic changes during plastic flow and fracture of metals.
There is 1 table.

SUBMITTED: June 3, 1962

Card 2/2

GUSEVA, L.N.; BABAREKO, A.A.

Atomis structure and mechanism of the plastic flow of solid
solutions. Zhur.neorg.khim. 7 no.9:2200-2205 S '62.

(MIRA 15:9)

(Solutions, Solid)   (Dislocations in metals)

GUSEVA, L.N.

Nitritometric titration with internal indicators. Apt. delo
12 no.2:44-50 Mr-Ap '63.   (MIRA 17:7)

1. TSentral'nyy aptechnyy nauchno-issledovatel'skiy institut,
Moskva.

GUSEVA, L.N.

Nitritometric determination of anesthesin and novocaine
in medicinal forms with neutral red as an inside indicator.
Apt. delo 12 no.4:62-65 Jl-Ag '63.   (MIRA 17:2)

1. TSentral'nyy aptechnyy nauchno-issledovatel'skiy institut.

GAITS...Y, ...L.; ... DEL..., L.L.

    Determining the upper cloud limit from data of meteorological
satellites. Trudy GGO no. 160:295-298 '64.

                                                    (MIRA 17:11)

ACCESSION NR: AT4046062   S/2531/64/000/166/0295/0298

AUTHOR: Gayevskiy, V. L. (Candidate of geographical sciences); Guseva, L. N.

TITLE: Determination of the height of the upper cloud boundary from meteorological satellite data

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy*, no. 166, 1964. Voprosy* interpretatsii danny*kh meteorologicheskikh sputnikov (Problems in the interpretation of data of meteorological satellites), 295-298

TOPIC TAGS: meteorology, meteorological satellite, cloud, atmospheric temperature gradient, cloud height, cloud boundary

ABSTRACT: If the air temperature at the earth's surface and the vertical air temperature gradient are known, data from measurements of the radiation temperature of a cloud can be used to determine its height. In this way, the height of the upper cloud boundary can be determined with an accuracy of 0.5 km. In this paper, the problem is considered for a case when the actual vertical air temperature is unknown and the surface temperature is determined from measurements of radiation temperature from a satellite or from a synoptic chart. The authors used data from aircraft sounding of the atmosphere to compute the vertical air temperature gradients for several types of clouds. Fig. 1 of the

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ACCESSION NR: AT4046062

Enclosure shows the values of the vertical temperature gradient for the air layer from the earth's surface to the upper cloud boundary. In the figure the values of the vertical air temperature gradient are plotted along the x-axis and the height of the upper cloud boundary along the y-axis. A total of 923 cases was investigated during a 4-year period. Analysis reveals that 80% of all cases of a cloudy sky are concentrated in a range of vertical temperature gradients of 0.4-0.75 C. Clouds of the types As, Ac and Sc (Sc for a height of the upper boundary above 2 km) correspond to temperature gradients from 0.45 to 0.6 C. In the case of Sc clouds with a height of the upper boundary below 2 km the vertical temperature gradient is 0.6-0.85 C. For Ns clouds, in 90% of the cases considered, the temperature gradient was 0.35 – 0.6 C. Only in the case of stratus clouds does the vertical temperature gradient have a broad range from 0.9 to –0.1 C. The mean value of the vertical air temperature gradient when As, Ac, Ns and Sc clouds are present is 0.55 C. Aircraft measurements of cloud surface temperatures revealed that the radiation temperature of cloud surfaces, depending on their density and optical thickness, can differ from the air temperature measured at the level of the cloud boundary by 3-10 C. For example, the radiation temperature of a relatively optically homogeneous surface of clouds with a thickness greater than 400 m differs from the air

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ACCESSION NR: AT4046062

temperature by approximately 3 C, whereas the radiation temperature of the surface of
clouds having a thickness less than 200 m can differ from the air temperature by 10 C.
Such great differences in determination of the temperature of the surface by the radiation
method limit the use of the proposed method for determination of height of the cloud cover.
Determination of the height of the upper cloud boundary is therefore possible only for
clouds not less than 400 m thick. The authors also considered another method for deter-
mining the height of the upper cloud boundary. The method is based on the assumption that
each cloud type is characterized by a definite height of its upper boundary which experi-
ences little change during the year for a particular area. By determining the type of cloud
from television image data obtained from meteorological satellites, it is possible to esti-
mate the upper cloud boundary. The mean heights of clouds for each type of cloud change
little from season to season. The most stable mean values are for As clouds, for which
the extreme deviations from the mean are in relatively narrow limits. In the case of other
cloud types the extreme deviations from the mean are large (up to 5 km). This method
therefore fails to provide the required accuracy of determination of the height of the upper
cloud boundary. Orig. art. has: 1 figure and 2 tables.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad (Main Geophysical
Observatory)

Card   3/5

ACCESSION NR: AT4046062

SUBMITTED: 00   ENCL: 01   SUB CODE: ES
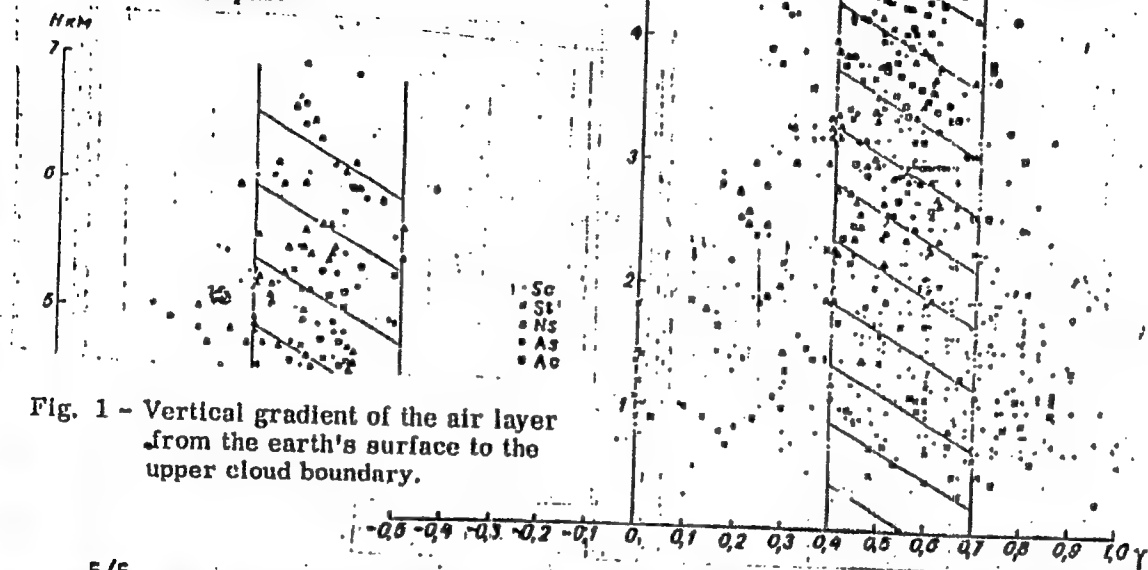
NO REF SOV: 003   OTHER: 002

Card   4/5

ACCESSION NR: AT4046062   ENCLOSURE: 01

Fig. 1 – Vertical gradient of the air layer from the earth's surface to the upper cloud boundary.

Card   5/5

GUREVA,

....., diffraction study of alloys in the system chromium-tantalum. Izv. AN SSSR. Neorg. mat. 1 no.6:880-884 Je '65.
(MIRA 18:8)

1. Institut metallurgii imeni A.A. Baykova AN SSSR, Moskva.

ELIN, I.P., kand.fiz.-matem.nauk; LAYEVSKIY, V.L., kand.fiz.-matem.nauk;
   GUSEVA, L.N.; DOMBROVSKAYA, Ye.P.; KONDRAT'YEV, K.Ya., prof.;
   NORDBERG, V., dcktor (Soyedinennyye Shtaty Ameriki); TER-MARKARYANTS,
   N.Ye., kand.fiz.-matem.nauk

Experience in the analysis of the infrared image of cloud cover
obtained by means of the "Nimbus-1" meteorological satellite.
Meteor. i gidrol. no.9:20-26 S '65.

(MIRA 18:8)

1. Glavnaya geofizicheskaya observatoriya; Leningradskiy gosudarstven-
nyy universitet i Mirovoy meteorologicheskiy tsentr.

EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b)/EWA(c)   IJP(c)   JD/WW/JG

ACC NR: AP5027931   SOURCE CODE: UR/0363/65/001/010/1743/1746

AUTHOR: Guseva, L. N.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Phase transformations in alloys of chromium with tantalum and niobium

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 10, 1965, 1743-1746

TOPIC TAGS: chromium alloy, tantalum alloy, niobium alloy, phase transition

ABSTRACT: X-ray structural analysis was used to study the Cr-Ta system (up to 50 at. % Ta) and the Cr-Nb system (15 - 40 at. % Nb). Phase transformations in Cr-Ta alloys were found to take place very slowly. The following findings are of interest: (1) the compound $TaCr_2$ crystallizes with a very stable hexagonal $MgZn_2$-type structure and dissolves appreciable amounts of tantalum; the region of homogeneity of this phase extends from 33 to 42 at. % Ta; (2) the compound $NbCr_2$ also crystallizes in an $MgZn_2$-type structure, which is unstable and on crystallization partially converts into an $MgCu_2$-type structure as the alloy is cooled. Analysis of all the alloys after annealing for 120 hr at 1400C showed the presence of a new η phase which was cubic and had a lattice constant of 11.45 and 11.46 in the Cr-Ta and Cr-Nb systems, respectively. Space group O_h^7 and type $TiNi_2$ were assigned to this phase. Certain problems involving the nature of the stability of MgX_2-type Laves phases are discussed. The electronic structure of nickel and vanadium atoms indicates that when they replace chromium atoms in

Card 1/2   UDC: 546.3-19-883-76

L 7904-66

ACC NR: AP5027931

$NbCr_2$, the electron concentration of the phase decreases in the case of nickel and increases in the case of vanadium; this is associated with a change from hexagonal to cubic packing. The data also show that tantalum and niobium have different valences in Laves phases, which explains the presence of the TaV_2 phase and the absence of the corresponding compound in niobium. Orig. art. has: 1 figure.

SUB CODE: MM, IC / SUBM DATE: 05Jul65 / ORIG REF: 006 / OTH REF: 005

Card 2/2

L -3101-6   EWT(m)/EWP(w)/T/EWP(t)/ETI   IJP(c)   JH/JD/HW/JG

ACC NR: AP6014119   (A)   SOURCE CODE: UR/0370/65/000/006/0132/0136

AUTHORS: Kornilov, I. I. (Moscow); Mints, R. S. (Moscow); Guseva, L. N. (Moscow);
Malkov, Yu. S. (Moscow)

ORG: none

TITLE: Interaction of NiAl with niobium

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1965, 132-136

TOPIC TAGS: nickel containing alloy, aluminum containing alloy, niobium containing
alloy, alloy phase diagram

ABSTRACT: The phase diagram of the system NiAl-Nb was investigated. The micro-
hardness and microstructure of the various phases and the superconductivity of the
compounds NbNiAl and Nb_2NiAl were determined. The experimental results are summa-
rized in graphs and tables (see Fig. 1). It was found that the Nb--Ni--Al system
forms two intermetallic compounds, viz: NbNiAl and Nb_2NiAl. The compound Nb_2NiAl
becomes superconductive at 4.2K, but the compound NbNiAl does not become supercon-
ductive at the temperatures investigated, i.e., down to 1.4K. The superconductivity
experiments were performed at the laboratory of the Institute for Physics Problems,
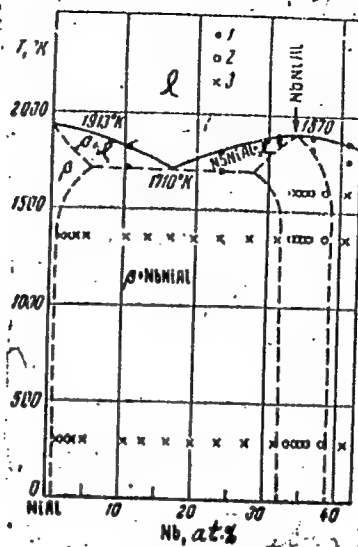AN SSSR (Laboratory of N. Ye. Alekseyevskiy, corresponding member).

Card 1/2

UDC: 669.715

L. 43101-66

ACC. NR: AP6014119

Fig. 1.   Phase diagram of the system
NiAl—Nb (up to 40 at.% Nb):
1 - points obtained by
thermal analysis; 2 - one-
phase structure; 3 - two-phase
structure.

Orig. art. has: 4 tables and 3 figures.

SUB CODE: 11/   SUBM DATE: 30Jul64

Card 2/2   MLP

L 29145-66   EWT(1)/FCC   GW

ACC NR: AP6018679   SOURCE CODE: UR/0050/65/000/009/0020/0026

AUTHOR: Vetlov, I. P. (Candidate of physicomathematical sciences); Gayevskiy, V. L.
(Candidate of physicomathematical sciences); Ter-Markaryants, N. Ye. (Candidate of
physicomathematical sciences); Guseva, L. N.; Dombkovskaya, Ye. P.; Kondrat'yev, K. Ya.
(Professor); Nordberg, V. (Doctor; USA)

ORG: Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya); Leningrad
State University (Leningradskiy gosudarstvennyy universitet); World Meteorological
Center (Mirovoy meteorologicheskiy tsentr)

TITLE: Experience in analyzing the infrared image of cloud cover obtained by the
meteorological satellite Nimbus I

SOURCE: Meteorologiya i gidrologiya, no. 9, 1965, 20-26

TOPIC TAGS: meteorologic satellite, cloud cover, satellite data analysis, satellite
photography, IR photography

ABSTRACT: This article presents the results of a comparative analysis of
ordinary meteorological data and data on cloud cover obtained using
the satellite Nimbus I. The article is accompanied by reproductions of
two Nimbus infrared cloud images obtained at midnight on 2 and 6 Sep-
tember 1964 over the Soviet Union. Much of the information is such as
contained in recent articles on the Nimbus photos published in the Ameri-
can press, but of course the photographs are compared with Soviet meteoro-

Card 1/2   UDC: 551.576:551.507.362.2

L 29145-66

ACC NR: AP6018679

logical data for the photographed area. It was found that the principal difficulties involved in recognition of the character of cloud cover from the photographs is that they show only relatively large details and the smaller details, often important in interpretation, cannot be seen. The following tentative conclusions are drawn: 1. The infrared image obtained from a satellite gives a more complete and informative picture of cloud cover distribution than a synoptic map. The photographs, even for a region with a dense network of meteorological stations, make it possible to refine the distribution of cloud cover over the earth's surface. 2. In some cases data on the radiation balance can be used to aid interpretation of satellite observations. Orig. art. has: 3 figures and 1 table. /JPRS/

SUB CODE: 04, 22, 14 / SUBM DATE: 23Apr65

Card 2/2 cc

L 32045-66   EWT(m)/T/EWP(t)/ETI   IJP(c)   JD/HW/JG

ACC NR: AP6013337   SOURCE CODE: UR/0363/66/002/004/0589/0591

AUTHOR: Guseva, L. N.; Rusanova, L. N.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Intermediate phases in the chromium-niobium system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 589-591

TOPIC TAGS: niobium compound, chromium compound

ABSTRACT: Chromium-niobium alloys were studied in the cast state and after annealing for 129 hr at 1400C, with particular emphasis on the region of composition $NbCr_2$. X-ray structural analysis was performed on powder samples in RKU cameras. The presence of a polymorphic transformation in the compound $NbCr_2$ was confirmed. The high-temperature modification has an $MgZn_2$-type hexagonal structure with $a = 4.93$, $c = 8.07$, and the low-temperature modification has an $MgCu_2$-type structure with $a = 6.96$. $NbCr_2$ at 1400C undergoes a phase transition with the formation of the η phase with a face-centered cubic lattice and a lattice constant of 11.46 A. It is postulated that the η phase belongs to the O_h^7 space group and has an $NiTi_2$-type structure. The effect of

Card 1/2   UDC 546.3-19-76-882

L 32045-66

ACC NR: AP6013337

third components, nickel and vanadium, on the structure of the compound $NbCr_2$ was investigated: nickel and vanadium stabilize the high-and low-temperature modification of this compound respectively. The attendant transformation of the hexagonal to the cubic structure is thought to be associated with an increase in the electron concentration of the alloy. Orig. art. has: 1 table.

SUB CODE: 11 / SUBM DATE: 13Jul65 / ORIG REF: 004 / OTH REF: 003

Card 2/2

LEVINA, R.Ya.; GEMBITSKIY, P.A.; GUSEVA, L.P.; AGASYAN, P.K.

Cyclopropanes and cyclobutanes. Part 36: Evaluation of the reactivity of aryl cyclopropanes with the aid of Gammett equations. Zhur.ob.khim. 34 no.1:146-151 Ja '64. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

IOFFE, Ye.I.; GUSEVA, L.P.

Local application of acriquine in the treatment of scrofuloderm and
lupus vulgaris. Vest. vener. no.2:52-53 Mar-Apr 1951. (CIML 20:9)

1. Prof. E.I. Ioffe; Departmental Physician. 2. Of the Clinic for
Skin and Venereal Diseases (Director—Prof. E.I. Ioffe), Stalingrad
Medical Institute.

GUSEVA, L. P.

Lyudmila Pavlovna

"The Antibiotic Action of Synthomycin on Typhoid-Paratyphoid Bacteria."
Cand Med Sci, Saratov Medical Inst, Min Health RSFSR, Saratov, 1954. (KL, No
3, Jan 55)   *Chr. of Microbiology*

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

GUSEVA, L. P., Candidate Med Sci (diss) -- "Experiment in the complex treat-
ment of dermal-tuberculosis patients with vitamin D-2, streptomycin, PASK,
and phthivazide". Stalingrad, 1958. 20 pp (Stalingrad State Med Inst), 200
copies (KL, No 24, 1959, 149)

GUSEVA, L.P.; BENTSION, A.D.

We are improving the quality of work in processing telegrams. Vest.
sviazi 23 no.12:20-21 D '63.   (MIRA 17:2)

1. Glavnyy inzh. Sverdlovskogo telegrafa (for Guseva). 2. Nachal'-
nik apparatnogo tsekha Sverdlovskogo telegrafa (for Bentsion).

MEL'NIKOV, N.N.; NURTDZHANYAN, K.A.; KUZNETSOVA, O.V.; GUSEVA, L.P.

Herbicides and growth promoting substances. Part 43: Synthesis
of chloromethylaryloxy-α-propionic and chloromethylaryloxy-
γ-butyric acids. Zhur. org. khim. 1 no. 12:2166-2169 D '65
(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
sredstv zashchity rasteniy, Moskva. Submitted November 30,
1964.

L 34617-66   EWT(l)   RO

ACC NR: AP6026578   SOURCE CODE: UR/0366/65/001/012/2166/2169

AUTHOR: Mel'nikov, N. N.; Muridzhanyan, K. A.; Kuznetsova, G. V.; Guseva, L. P.
ORG: All-Union Scientific Research Institute of Chemical Agents of Plant Protection,
Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh sredstv zashchity
rasteniy)

TITLE: Herbicides and plant growth regulators. XLIII. Synthesis of chloromethyl-
aryloxy-alpha-propionic and chloromethylaryloxy-gamma-butyric acids

SOURCE: Zhurnal organicheskoy khimii, v. 1, no. 12, 1965, 2166-2169

TOPIC TAGS: plant growth, herbicide, chemical synthesis, carboxylic acid, methylation,
chemical reduction, ester, amine

ABSTRACT: Study of the chloromethylation of aryloxyalkylcarboxylic acids
has shown that in all cases the corresponding chloromethylaryloxyalkyl-
carboxylic acids are produced in good yields and the reaction occurs under
relatively mild conditions. The chloromethyl group enters position 4, but
if position 4 is filled, it enters position 2. This course of the reaction
is demonstrated by the fact that in the reduction of chloromethyl derivatives
the corresponding methyl derivatives described in the literature are obtained.
For example, reduction of the product obtained by chloromethylation of 4-
chlorophenoxy-gamma-butyric acid, results in 4-chloro-2-methyl-phenoxy-gamma-
butyric acid. Study of the physiological activity of the compounds synthesized
shows that chloromethylaryloxyalkylcarboxylic acids are less toxic to plants
than the corresponding aryloxyalkylcarboxylic acids. To find new compounds
physiologically active for plants, several chloromethylaryloxyalkylcarboxylic
acids, their esters, and amines not described in the literature were synthesized.
Orig. art. has: 2 tables. [JPRS: 36,455]

SUB CODE: 07, 06 / SUBM DATE: 30Nov64 / ORIG REF: 004 / OTH REF: 001
Card 1/1   UDC: 541.691547.472'563.3

YEZHEVA, P.S.; GUSEVA, L.T.; KURCHININA, P.G.; GUROVA, T.G.; MISHCHENKO,
    G.I.; BERDNIKOVA, M.V.; TRAVINA, L.D.; ZORINA, P.T., red.

[Economy of Magadan Province; statistical collection] Narodnoe kho-
ziaistvo Magadanskoi oblasti; statisticheskii sbornik. Magadan,
1960. 110 p.   (MIRA 14:10)

1. Magada (Province) Statisticheskoye upravleniye. 2. Rabotniki Ma-
gadanskogo oblastnogo statisticheskogo upravleniyu (for all except
Zorin). 3. Nachal'nik Magadanskogo oblastnogo statisticheskogo upravle-
niya (for Zorin).
          (Magadan Province—Statistics)

GUSEVA, L.V., red.; NOVITSKAYA, L.V., red.; RYABOVA, M.G., red.;
TARASOV, B.A., red.

[Youth brigades] Brigady iunykh. Volgograd, Nizhne-
Volzhskoe knizhnoe izd-vo, 1964. 74 p.   (MIRA 18:2)

BARMINTSEV, Yu.N.; GUSEVA, L.V., red.; ZLOBIN, M.V., tekhn. red.

[Evolution of horse breeds in Kazakhstan; results of a zoo-
technical study of breed formation]Evoliutsiia konskikh porod
v Kazakhstane; opyt zootekhnicheskogo issledovaniia problemy
porodoobrazovaniia. Kozgosizdat, 1958. 281 p.   (MIRA 16:2)
                 (Kazakhstan—Horse breeds)

BILIK, N.P.; GUSEVA, L.Ye.

Accelerated methods of laboratory control. Proizv. smaz. mat. no.3:
9-10 '57.   (MIRA 10:12)

1. Pervyy Moskovskiy neftemaslozavod.
                         (Lubrication and lubricants)

MUSABAYEV, I.K., prof., GUSEVA, M.D.

Diagnostic value of the ether-soluble bilirubin reaction. Sov.
med. 22 no.7:102-113 Jl '58   (MIRA 11:10)

1. Iz kliniki infektsionnykh bolezney Tashkentskogo instituta
usovershenstvovaniya vrachey.
        (JAUNDICE, blood in.
              bilirubin, ether-soluble reaction, diag. value (Rus))
        (BILIRUBIN, in blood
              in jaundice, ether-soluble reaction,diag. value (Rus))

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Chemical Industry and
Miscellaneous Industrial Products

① chem - met

Regeneration of copper-nickel catalyst. M. G. Gus'eva (Rostov). *Chem. Tech.* (Berlin) **5**, 65(1953); (translation of *Za Stakhanovskii Kombinat, Rostov* 1950, 2i–4).—Cu-Ni catalysts may be regenerated after use by boiling the catalyst with 60% by wt. soln. of H_2SO_4 in the ratio of 2 parts of catalyst to 1 part of soln. The H liberated from $Ni + H_2SO_4 \rightarrow NiSO_4 + H$ retards the oxidation of the Cu ($Cu + \frac{1}{2} O_2 \rightarrow CuO$; $CuO + H_2SO_4 \rightarrow CuSO_4 + H_2O$). This can be overcome by addn. of FeO which functions as follows: $4\ FeSO_4 + 2\ H_2SO_4 + O_2 \rightarrow 2\ Fe_2(SO_4)_3 + H_2O$ followed by $Fe_2(SO_4)_3 + Cu \rightarrow CuSO_4 + 2\ FeSO_4$. The contents of Ni (8–12% of catalyst wt.) and Cu (3–4% of catalyst wt.) are 95–9% recovered in this manner.   I. T. C.

GUSEVA, M.G.

U S S R.

Improving precision of method for analysis of glycerol by specific gravity (method). M. G. Guseva (Oil-Fat Combine "Worker," Rostov-on-Don). *Maslob.-Zhir. Prom.* 19, No. 8, 27-8 (1954).—Data are presented to show that the analysis of glycerol by its sp. gr., corrected for ash and org. matter, is as accurate as the bichromate method of analysis.   Vladimir N. Krukovsky.

GUSEVA, M.G., inzh.; POROLO, L.V., inzh.

Problems involved in the hydrogenation of fatty acids. Masl.-
zhir.prom. 26 no.6:21-24 Je '60.   (MIRA 13:6)

1. Rostovskiy maslozhirovoy kombinat (for Guseva). 2. Vsesoyuznyy
nauchno-issledovatel'skiy institut zhirov.
          (Acids, Fatty) (Hydrogenation)

ARATOV, I.S.; KAPLAN, N.M., inzh.; NIZAMOVA, N.N., inzh.;
     GUSEVA, M.I., inzh.

     Various information. Masl.-zhir. prom. 29 no.3:39-40 Mr '63.
                                        (MIRA 16:4)

          (Oil industries)

The use of gelatin in the determination of tungsten. A. Platunov and M. I. Guseva. *Uchenye Zapiski Leningrad. Gosudarst. Univ. Ser. I, A. Zhdanova No, 153, Ser. Khim. Nauk, No. 11, 60–70(1952).—The advisability of using gelatin (cf. Tananaev, et al., C.A. 41, 3710f) to promote the complete sepn. of WO₃ is questioned. Gelatins with 1.07, 0.84, and 17.65% ash were used in the analysis of standard soln. of normal, pyro-, and metatungstates. In the presence of gelatin the results are frequently low when compared with similar analysis in the presence of cinchonine or β-naphthoquinoline. Where the results without any promoters approach 100%, the results in the presence of gelatin exceed 100%. The scattering of the results with different prepns. of gelatin and in parallel detns. is appreciable. I. B.

(1)

AUTHOR   GUSEV, V.M., CHKUASELI, D.V., GUSEVA, M.I.   89-9-4/32
TITLE   The Separation of Ge and Mg Isotopes
            Magnetic Separator.
            (Razdeleniye izotopov germaniya i magniya v malom elektro-
            magnitnom separatore)

PERIODICAL Atomnaya Energiya, 1957, 7 3 , Nr 5, pp 215-221

ABSTRACT

Of a small electromagnetic separator ($920 \times 1500 \times 350$ mm)
(built according to Dempter's mass spectograph) particularly
the new construction of the ion source and of the ion target
are described. The ion source, in which the discharge is
maintained in the vapor of the element to be investigated,
works satisfactorily up to temperatures of $1500^{\circ}C$. The ion
target is constructed in such as manner that it collects all
isotopes of the element to be separated at one and the same
time. The dependence of the ion flux, which was focussed on
the target has been particularly well measued. In the case
of Ge- separation the ion flux at the target attained
15-20 mA at Mg 35-40 mA. In the chambers of the target about
40 mg of the enriched germanium isotopes and $\sim$ 25 mg of the
magnesium isotopes were separared per hour.
The mass-spectrographical investigation was carried out on
metallic germanium and on MgJ_2.

CARD 1/2

89-9-4/32

The Separation of Ge and Mg Isotopes in a small Electro-Magnetic Separator.

The following degrees of enrichment was attained:

Isotope	natural content	content after enrichment
Ge^{70}	20,55	91,00
Ge^{72}	27,37	92,70
Ge^{73}	7,61	60,29
Ge^{74}	36,74	97,00
Ge^{76}	7,67	92,41
Mg^{24}	78,60	99,3
Mg^{25}	10,11	94,0
Mg^{26}	11,29	93,0

(With 2 Tables, 8 Illustrations and 2 Slavic references)

ASSOCIATION: not given.
PRESENTED BY: -
SUBMITTED: 19.12.1956
AVAILABLE: Library of Congress.

CARD 2/2

GUSEVA, M.I.

Preparing isotopic targets in electromagnetic separators. Prib. i
tekh. eksp. no.5:112-113 S-O '57.   (MIRA 10:12)
     (Isotopes--Industrial applications)   (Ion beams)

66333

SOV/181-1-10-8/21

24(6) 24.6510

AUTHOR: Guseva, M. I.

TITLE: Investigation of the Dispersive Action of Positive Ions With
               an Energy of up to 25 kev in a Small Electromagnetic Separator

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 10,
               pp 1540 - 1545 (USSR)

ABSTRACT: Measurements were made by means of a small electromagnetic
               separator for a sectional drawing (see figure 1) of the FTI
               AN Gruzinskoy SSR (Institute of Physics and Technology of the
               AS Gruzinskaya SSR). The absolute dispersion coefficients and
               their energy dependence (3-25 kev) and ion mass were calculated
               and measured for the following combination of metals and ions:
               Cu-A, Cu-Kr, Cu-Xe, Cu-Cu, Ag-A, Ag-Kr, Ag-Xe, and Ag-Ag. The
               dependence of the dispersion coefficient of a copper target
               on the energy of the bombarding ions is represented in figure 1,
               that of a silver target in figure 2. The dependences of the
               dispersion coefficient of a silver target on the energy of
               the argon ions, of a copper target on the density of the
               ionic current of krypton, and of a copper target on the den-
               sity of the ionic current of silicon are given in figures 4-6.
               Final digest: 1) The measuring method has great advantages
Card 1/2   over conventional methods as high-vacuum measurements are

66333

Investigation of the Dispersive Action of Positive Ions   SOV/181-1-10-8/21
With an Energy of up to 25 kev in a Small Electromagnetic Separator

made at exactly determinable ionic energy and mass. In
addition, the ionic current on the target may be measured
very exactly. 2) The nature of the experimental dependence
of the dispersion coefficient on ionic energy may be satis-
factorily explained by Keywell's theory. 3) At some 10 μa
of ionic current on the target, the dispersion coefficient
is greatly dependent on the density of the ionic current. With
dropping current density the dispersion coefficient is also
reduced. 4) The intrusion of ions into the surface layers
of the target is accompanied by dispersion of the target ma-
terial. Accordingly, it is possible to produce isotopic targets
immediately in the electromagnetic separator. The author
mentions that I. F. Kvartskhav; displayed permanent interest
in this investigation, and Doctor N. D. Morgulis gave valuable
advice. There are 6 figures and 10 references, 5 of which
are Soviet.

SUBMITTED: August 16, 1957

Card 2/2

21('10)

AUTHORS: Guseva, M. I., Inopin, Ye. V.,   SOV/56-36-1-1/62
             Tsytko, S. P.

TITLE: Penetration Depth and Distribution Character of Atoms Injected
             Into a Si^{30} Isotope Target (Glubina proniknoveniya i kharakter
             raspredeleniya vbitykh atomov v izotopnoy misheni Si^{30})

ABSTRACT: In their introduction, the authors discuss several investiga-
             tions carried out previously in this field as e.g. by Bohr (Bor)
             (Ref 1) and Nielson (Nil'sen) (Ref 2). viz. theoretical in-
             vestigations of the penetration depth and the distribution
             function of target atoms in the base layer; experimental data
             were obtained from proton and α-particles scattering tests
             (Ref 3), resonance capture of protons (Ref 2) and by means of
             tagged atoms (Ref 4).
             The aim of the present paper is the investigation of the pene-
             tration depth of Si^{30}-ions into copper- and tantalum backings
             in dependence on the backing material and ion energy, as well
             as the investigation of Si^{30} atom distribution in the surface

Card 1/4   layer of the backing. Estimation of data is possible by

Penetration Depth and Distribution Character of   SOV/56-36-1-1/62
Atoms Injected Into a Si^{30} Isotope Target

means of the reaction $Si^{30}(p,\gamma)P^{31}$. All measurements with this
reaction were carried out on a silicon target with 940 keV
protons.
First, the preparation of the isotope target is described. The
silicon isotope was electromagnetically precipitated (ion cur-
rent 30 μA) on to the tantalum- or copper backing (14 mm dia-
meter, 0.2-0.5 mm thickness)(see also references 5,6). Four
such targets were produced, 3 of which with Cu- and one with
Ta- backing. Preparation data are given by table 1. In the
next paragraph the authors describe the investigation method,
which is based, in principle, on measuring the γ-yield in
the case of resonance at E_p = 940 keV in the above-mentioned
reaction.   Width, shape, and height of the resonance peak were
determined (Fig 2). This resonance peak was measured by means
of the electrostatic precision generator of the FTI AN USSR
(Physical-Technical Institute, AS UkrSSR). The γ-yield was
measured on a NeJ(Tl)-crystal by means of the photomultiplier
FEU-19. A block scheme of the experimental arrangement is
shown by figure 1. Results are given by diagrams and in table 2.

Card 2/4   Figure 3 shows the γ-yield of the reaction $Si^{30}(p,\gamma)P^{31}$ for

Penetration Depth and Distribution Character of   SOV/56-36-1-1/62
Atoms Injected Into a Si^{30} Isotope Target

2 targets with copper backing, figure 4 shows the depth dis-
tribution function of Si^{30}-ions in a tantalum backing. The
authors obtained the following results:
1) The penetration depth of Si^{30}-ions in tantalum in the case
of an ion energy of 25 keV was experimentally determined as
amounting to 30 mkg/cm^2, which agrees well with theory.
2) The distribution of the silicon atoms which penetrated into
the tantalum backing is similar to the distribution following
from the diffusion theory for thermal neutrons.
3) In a layer of 30 mkg/cm^2 2 silicon atoms correspond, on the
average, to each tantalum atom, which indicates a considerable
deformation of the tantalum lattice and the existence of an
intermetallic $TaSi_2$-compound.
4) The experimentally determined penetration depth of silicon
atoms in copper is 3 to 4 times greater than that calculated
on the basis of Nielson's formula and smaller than that
following from the theory developed by N. Bohr.
The authors finally thank K. D. Sinel'nikov and A. K. V_{al}'ter
for the interest they displayed in the work and for their dis-

Card 3/4   cussions, and they also express their gratitude to Yu. P. Antuf'-

Penetration Depth and Distribution Character of   SOV/56-36-1-1/62
Atoms Injected Into a Si^{30} Isotope Target

        yev, V. Yu. Gonchar, A. N. L'vov, P. M. Tutakin, and
Ye. G. Kopanets for taking part in measurements, and, finally,
they express their thanks to A. A. Tsygikalo and his collabor-
ators. There are 4 figures, 2 tables, and 9 references, 6 of
which are Soviet.

Card 4/4

Gusev, M.

24.6810

82166
S/048/60/024/06/11/017
B019/B067

AUTHORS: Gusev, V. M., Guseva, M. I., Vlasenko, V. P.,
              Yelistratov, N. P.

TITLE: Investigation of the Interaction of Fast Deuterium Ions
              With Metals

TEXT: This is the reproduction of a lecture delivered at the 9th All-
Union Conference on Cathode Electronics from October 21 to 28, 1959 in
Moscow. The authors investigated the sputtering of copper by deuterium
ions with energies of 10 - 30 kev. Furthermore, the penetration of deuteri-
um into copper, stainless steel, and some other metals in their bombard-
ment with 25-kev deuterons was studied. Measurements were made in a small
electromagnetic separator in which the beam of atomic deuterium ions was
focused on the target of the metal to be investigated (Fig.1). Sputtering
was determined by measuring the reduction in weight of the target. Fig. 2
graphically shows the measured and the calculated coefficients of sputtering.

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Investigation of the Interaction of Fast Deuterium   82166
Ions With Metals   S/048/60/024/06/11/017
                                                       B019/B067

A formula by R. Pease (Ref. 5) was used to calculate this coefficient.
The experimental and the theoretical dependence of the coefficient on the
ion energy have the same character; the experimental values are, however,
somewhat higher which is brought into connection with the assumption used
in the calculation that more than half of the atoms in the first three
atomic layers are emitted. The penetration of deuterons into the metals,
and the desorption of the driven-in atoms on heating the sample were studied
by a method which is based on the measurement of the neutron output in the
reaction $D(dn)He^3$ which takes place between the driven-in deuterium atoms
and the incident deuterons. Fig. 3 graphically shows the dependence of the
neutron output on the duration of irradiation of a copper target. A satura-
tion of the metals with deuterium is concluded from the course of the curve.
Furthermore, Fig. 4 shows the experimental results with which the dependence
of the neutron output on the energy of the incident deuterium ions was de-
termined on an Al-target. It is concluded from these results that the limit-
ing concentration of the driven-in deuterium atoms increases with increasing
energy of deuterons. An estimation of the amount of deuterium atoms per
cm^2 of copper target with an energy of incident ions of 25 kev yielded a
value of approximately $2 \cdot 10^{18}$ particles per cm^2. In this estimation it was

Card 2/3 $\cancel{W}$

Investigation of the Interaction of Fast Deuterium   S/048/60/024/06/11/017
Ions With Metals   82166
                                                      B019/B067

assumed that the driven-in atoms are regularly distributed over the range
in which the deuterons are slowed down. Fig. 5 shows the dependence of the
neutron output on the target temperature. As may be seen, neutron output
at 500°C is about 20% of the initial value. The authors thank I. F.
Kvartskhava and N. D. Morgulis for the discussion of some problems arising
in these studies. There are 5 figures and 10 references: 6 Soviet,
2 American, 1 Swedish, and 1 German.

Card 3/3

23732

S/057/61/031/006/016/019
B116/B201

21.4210

AUTHORS: Gusev, V. M., Guseva, M. I., Yelistratov, N. P., and
                Ikonnikov, D. S.

TITLE: The problem of penetration of fast deuterium ions into metals

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 6, 1961, 749 - 750

TEXT: A paper by V. M. Gusev, M. I. Guseva, V. P. Vlasenko, N. P.
Yelistratov (Ref. 1: Izv. AN SSSR, ser. fizich., 24, no. 6, 689, 1960) con-
tains data regarding the largest possible number of deuterium atoms entering
the surface layers of copper, stainless steel, and palladium targets irra-
diated by 25-kev deuteron beams of different intensities. In the course of
further experiments, saturation curves were obtained for platinum, tantalum,
silver, aluminum, gold, and titanium targets with deuterium (Fig. 1). For
a more complete congelation of the oil vapors of the diffusion pump, an
additional trap cooled by liquid nitrogen was placed in the vacuum chamber.
Fig. 1 shows that most deuterium atoms are able to penetrate into titanium;
more precisely, 14 times the number that penetrate into stainless steel
(which absorbs the lowest amount of deuterium). If titanium is irradiated

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with a deuteron beam having an energy of 25 kev and an intensity of 2 ma/cm^2, the total neutron yield per cm^2 of wall will amount to $2.5 \cdot 10^6$ neutrons/second. Whenever a target was used several times, the thin surface layer saturated with deuterium during the previous experiment was mechanically removed before starting the experiment. The neutron yield always began from zero. On the other hand, if the target irradiation was interrupted for a number of hours or days, the former value of neutron yield was restored after irradiation was recommenced regardless of whether the target was placed in a vacuum or in air. This proves that deuterium does not diffuse into the interior of the metal, not even in titanium. The solubility of hydrogen in titanium is about 10^4 times as high as in copper, silver, aluminum, platinum, and stainless steel (Ref. 2: S. Deshman. Nauchnyye osnovy vakuumnoy tekhniki (Scientific basis of vacuum technology), M., p. 451, 1950.) Unlike the curves of other metals, the saturation curves of silver and gold with deuterium display maxima (Fig. 1). Further studies are required for clarifying the causes of their formation. The indications of the neutron recorder were photographed by a motion-picture camera and the authors suc-

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ceeded in determining the time dependence of the neutron yield in the first
fractions of a second after beginning with the irradiation of the target by
a deuteron beam. Fig. 2 shows the initial section of this curve for a
stainless steel target. The linear course of this section proves that the
gas generation coefficient of deuterium is almost zero during the first
seconds of irradiation (when disregarding the reflection of deuterium ions
from the target). After that, the neutron yield rises more slowly with time,
and the curve tends toward saturation (Fig. 1). The conclusion may be drawn
therefrom that equilibrium is established between the deuterium amounts
reaching the target and those leaving the target due to diffusion and
sputtering. There are 2 figures and 2 Soviet-bloc references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Gruz. SSR Sukhumi (Institute
               of Physics and Technology, AS Gruzinskaya SSR, Sukhumi)

SUBMITTED: December 26, 1960

Card 3/5

25035
S/057/61/031/007/018/021
B104/B206

24.6210

AUTHORS: Guseva, M. I. and Aleksandriya, B. V.

TITLE: Effect of the ion current density on structure and concen-
             tration of isotope targets prepared in an electromagnetic
             separator

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 7, 1961, 867 - 875

TEXT: The structure of Si^{30} and Ag^{109} targets prepared in an electro-
magnetic separator on copper backings, and the concentration of atoms of
these isotopes penetrated into the copper support were investigated, the
effect of the ionic ray intensity having been considered. The tests were
made to clarify problems connected with the direct preparation of isotope
targets of solid elements in an electromagnetic separator. The dependence
of the collection factor of Si- and Ag isotopes on copper backings, on
the ion current density was studied, and electronographic phase- and
microstructural analyses were made of the surface layer of the irradiated
copper backings. Si and Ag were chosen on account of their different
evaporation properties. The collection factor g of silicon onto the cop-
per support is shown in Fig. 1 as a function of the current density j,
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Effect of the ion...

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and the sputtering factor N also as a function of j. The ion energy in these experiments amounted to 20 kev. The collection factor for silicon proved to be greater than that of silver. The silver atoms, however, had better sputtering properties than the silicon ions. A reduction of the Ag^+ ion current density from 300 to 3 microamperes per cm^2 led to a reduction of the sputtering factor from 12.6 to 2.5 atoms/ions. For Si this factor was reduced from 3.5 to 0.4 at/ion (Fig. 1). The increase of the collection factor with decreasing ion current density is explained by the formation of films on the surface of the backing, consisting of combinations between the atoms of the backing and the penetrated isotope atoms with molecules adsorbed on the surface. The structural analyses show that the targets investigated here consist of two parts. An outer layer consists of the sputtered atoms and of combinations with them; an inner layer consists of the basic lattice into which atoms of the sputtered isotope have penetrated. The concentration of the isotope atoms reaches values up to some hundred micrograms per cm^2. If targets are prepared at relatively high current densities, so that sputtering of the support develops, the target consists essentially of atoms penetrated into the

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basic lattice of the support substance, and only a small amount of the isotope is deposited on the surface. The authors thank I. F. Kvartskhav, V. M. Gusev, and R. G. Shvangeradze for their interest and discussion. There are 8 figures, 3 tables, and 13 references: 4 Soviet-bloc and 9 non-Soviet-bloc. The most important references to English-language publications read as follows: S. Thulin, Phys. Rev., 76, 871, 1949; J. Koch, Nature, 161, 566, 1948; J. Koch et al., Electrom. Isotope Separators a. Applications of Electrom. Enriched Isotopes, pp. 166, 57, Amsterdam, 1958.

SUBMITTED: December 11, 1960

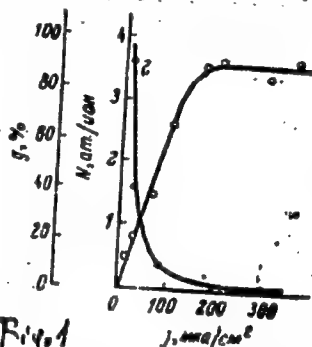Fig. 1: Collection factor g (curve 2) and sputtering factor N (curve 1) as a function of the ion current density j.

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Fig. 1

GUSEV, V.M.; GUSEVA, M.I.; YELISTRATOV, N.P.; IKONNIKOV, D.S.

Penetration of fast deuterium ions into metals. Zhur. tekh.
fiz. 31 no.6:749-750 Je '61.   (MIRA 14:7)

1. Fiziko-tekhnicheskiy institut AN Gruzinskoy SSR, Sukhumi.
            (Ion beams) (Deuterium)

GUSEVA, M.I.; ALEKSANDRIYA, B.V.

Effect of the density of an ion current on the structure and
concentration of isotopic targets produced 'n an electromag-
netic separator. Zhur. tekh. fiz. 31 no.7:867-875 J1 '61.
(MIRA 14:7)

(Isotope separation)
(Ion beams)

S/109/62/007/009/018/018
D409/D301

24.6730 (als 6617)

AUTHOR: Guseva, M.I.

TITLE: Sputtering of stainless steel and tantalum by deute-
             rium and krypton ions with energies of 5 – 30 kev

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 9, 1962,
             1680 – 1685

TEXT: The results are given of measurements of the sputtering
yields of stainless steel and tantalum by deuterium and krypton
ions. Such investigations are of practical importance, as stainless
steel and tantalum are used in accelerators and vacuum devices in
which high-energy ion beams are utilized. The measurements were con-
ducted in the chamber of an electromagnetic separator with a focus-
ing angle of 180^0. The ion-current density at the target was 500
microamp./cm^2 in the experiments with krypton, and 3-5 milliamp/cm^2
in the case of deuterium. The amount of sputtered atoms was deter-
mined according to the decrease in target weight. The sputtering
yields of stainless steel and tantalum increase, with increasing
krypton-ion energy, from 2 and 1.26 atom/ion (at 5 kev), to 4.96
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Sputtering of stainless steel ...

S/109/62/007/009/018/018
D409/D301

and 2.97 atom/ion (at 30 kev), respectively. In the case of deuterium ions, the sputtering yields were by two to three orders of magnitude smaller than in the case of krypton ions; an increase in deuterium energy from 10 to 30 kev, leads to an insignificant increase in the sputtering yields of tantalum, and to a decrease in those of stainless steel. This difference between the curves, representing the dependence of the sputtering yield on ion energy, in the case of krypton- and deuterium ions, respectively, is evidence of the different type of interaction of these ions with the metal atoms. The measured values of the sputtering yield were in good agreement with those calculated by P.K. Rol et al. (see references) The value of the constant K, entering Rol's formula, was determined from the experimental data ($K = 0.9 \cdot 10^{-11}$ m/ev for Ta, and $K = 2.47 \cdot 10^{-11}$ m/ev for stainless steel). The obtained results are interpreted on the basis of Bohr's theory, of the theory of Rol et al., and of the theory of Piz (Ref. 15: G.N. Kingin, R.S. Piz, Uspekhi fiz. nauk, 1957, 60, 4, 590). There are 6 figures. The most important English-language reference reads as follows: P.K. Rol, Y.M. Fluit, Y. Kistemaker, Physica, 1960, 26, 11, 1009.

SUBMITTED: March 19, 1962
Card 2/2

GUSEVA, M.I.; ZHEREBTSOVA, K.I.; LITVIN, V.F.; NEMILOV, Yu.A.

Si^{31} nucleus excitation levels. Vest. LGU 18 no.10:130 '63.
(MIRA 16:8)

(Silicon isotopes) (Protons)

AUTHORS: Guseva, M. I., Zherebtsova, K. I., Litvin, V. F., Nemilov,
              Yu. A., Orlova, T. V.

TITLE: The nature of the 3.79-Mev excited level of the Si^{30} nucleus

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
              no. 2, 1963, 421-423

TEXT: The energy spectra and angular distributions of the protons from
$Si^{29}(d,p)Si^{30}$ reactions were investigated with a multi-angle magnetic
analyzer. The target, a film consisting of silver plus silicon with
200 $\mu g/cm^{2}$ Si and 70% Si^{29}, was bombarded by 6.59-Mev deuterons. The
protons emitted in the nuclear reaction were analyzed with respect to
energy in the range 5-15 Mev, and with respect to emission direction in
the interval 10-90°. Besides the energy peaks corresponding to the
Si^{30} ground state, and the states with 2.24 and (8.09 + 8.149) Mev, the
3.79-Mev level of the Si^{30} nucleus was investigated and its proton angular
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The nature of the 3.79-Mev ...

S/056/63/044/002/005/065
B102/B136

distribution was obtained for the first time. Its characteristics were: $l_n = 0$, $J = 0^+$, $C^2 \theta^2 [J] = 1.7 \pm 0.6$, the reduced width (cf. Rev. Mod. Phys. 32, 567, 1960). This level could be considered as a two-quasi-particle level. The respective characteristics of the ground and the $(8.09 + 8.149)$ Mev states are: 0, 0^+, 1, and 1, $(0^-, 1^-, 2^-)$, 5.0 ± 1.5. There are 2 figures and 1 table.

SUBMITTED: July 27, 1962

Card 2/2

GUSEVA, M.I.; ZHEREBTSOVA, K.I.; LITVIN, V.F.; NEMILOV, Yu.A.;
ORLOVA, T.V.

Nature of the 3.79 Mev. excitation energy level of the
Si^{30} nucleus. Zhur. eksp. i teor. fiz. 44 no.2:421-423
F '63.   (MIRA 16:7)

L-57801-65   EWA(h)/EWT(l)/T   Pa-6/Peb   IJP(c)   AT
ACCESSION NR: AP5017301   UR/0181/65/00 /007/2077/2081

AUTHOR: Gusev, V. M; Titov, V. V.; Guseva, M. I.; Kurinnyy, V. I   32
                                                                                   B

TITLE: Thermal emf in a quantizing field in semiconductors with multiellipsoid
energy surfaces

SOURCE: Fizika tverdogo tela, v. 7, no. 7, 1965, 2077-2081

TOPIC TAGS: transverse thermal emf, thermal emf, semiconductor, conduction band

ABSTRACT: Obraztsov's formula relating entropy to transverse thermal emf in a
semiconductor with a simple conduction band placed in a quantizing magnetic field
(Yu. N. Obraztsov, FTT, 7, 2, 573, 1965) is extended to encompass semiconductors
with ellipsoidal energy surfaces. Although the method can be used in investigating
a degenerate electron gas, the present calculations are restricted to the non-
degenerate case, when results are obtainable which can be applied to concrete band
structures of the type found in n-Ge and n-Si. The thermal emf of such semicon-
ductors, as affected by the magnetic field, is computed within the Boltzmann
statistics approximation. Electron spin is taken into account, and examples
are given of the application of the formulas to real semiconductors. Orig. art.
has: 36 formulas.   [ZB]

Card 1/2

L-57881-65

ACCESSION NR: AP5017301

ASSOCIATION: none

SUBMITTED: 25Jan65

NO REF SOV: 002

ENCL: 00

OTHER: 006

SUB CODE: SS, EM

ATD PRESS: 4044

D

L 29932-66   EWT(l)/EWT(m)/T/EWP(e)/EWP(t)/ETI   LJP(c)   AT/WE/JD

ACC NR: AP6018580   SOURCE CODE: UR/0181/66/008/06/1964/1965

AUTHOR: Vavilov, V. S.; Guseva, M. I.; Konorova, Ye. A.; Krasnopevtsev, V. V.;
Sergiyenko, V. F.; Titov, V. V.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut
AN SSSR)

TITLE: Semiconductor diamonds obtained by ion bombardment

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1964-1965

TOPIC TAGS: semiconductor alloy, semiconductor crystal, semiconductor conductivity,
diamond

ABSTRACT: An investigation was made of the dependence of electric conductivity on
the temperature and concentration of the impurities introduced into a layer of diamond
doped with lithium and boron by ion bombardment. Diamond doping was carried out in an
ion-ray installation with a magnetic separation at a focusing angle of 180°. Lithium
and boron ions with an energy of 40 kev were introduced into the natural face of the
crystal or into the cleavage plane perpendicularly to the crystallographic directions
[111] and [100]. The activation energy for lithium was (0.29 ± 0.01) ev and for boron
(0.25 ± 0.01) ev. Lithium-doped diamond has an electron-type conductivity, while in
boron-alloyed diamond the holes are the major charge carriers. Annealing of specimens
at 600C for three hours in an argon atmosphere had virtually no effect on the activa-

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L 29932-66

ACC NR: AP6018580

tion energy of electric conductivity; the general resistance of the doped layer in-
creased somewhat only in the case of boron. The acceptor and donor levels appearing
in the forbidden band as the result of radiative defects are deep and have only a
slight effect on the activation energy. With an increasing concentration of lithium,
the activation energy decreases in the range of high temperatures as well as in the
range of lower temperatures. These rules apply to the impurity band, in which the
concentration of lithium is about 10^{20} cm^{-3}. Ion bombardment makes it possible to
obtain semiconducting layers of diamond whose electric conductivity can change by
5 to 10 orders, depending on the extent of doping. The energy level corresponding to
the lithium admixture is separated by 0.29 ev from the bottom of the conductivity
band, while the energy level of boron is 0.25 ev from the top of the valence band.
The authors thank V. M. Gusev for collaboration in the work, V. A. Mizonova and
N. A. Shuvalova for the preparation of specimens, Yu. Ye. Andreyev for participation
in the measurements, and S. A. Shevchenko for supplying a device for determining the
sign for the Hall coefficient. Orig. art. has: 2 figures and 1 table.
[JA]

SUB CODE: 20/ SUBM DATE: 08Jan66/ OTH REF: 004/ ATD PRESS: 5011

Card 2/2 C.C.

GUSEVA, M.P.

Physical development of young rural children in Moscow Province.
Sov.zdrav. 18 no.6:7-10 '59.
(MIRA 12:8)

1. Iz otdeleniya lechebno-profilakticheskoy pomoshchi detyam
Instituta organizatsii zdravookhraneniya i istorii meditsiny
imeni N.A.Semashko (dir.Ye.D.Ashurkov).
    (CHILD

        phys.develop. of young rural child. in
        Moscow area (Rus))
(GROWTH

        same)

GALINKIN, A.I.; GUSEVA, M.V. (Voronezh)

Improve drug distribution to the public. Apt. delo 10 no.3:65-67
My-Je '61.
(VORONEZH—DRUGSTORES) (MIRA 14:7)

GUSEVA, M.Ye.; MAZINA, V.O. (Chelyabinsk)

Case of electromagnetic extraction of an intracerebral nail.
Vop.neirokhir. 23 no.4:43 Jl-Ag '59.   (MIRA 12:10)

1. Oblastnaya klinicheskaya bol'nitsa (Chelyabinsk)
        (BRAIN, for. bodies,
                electromagnetic extraction of nail (Rus))

SHNITNIKOV, V.N., doktor biologicheskikh nauk, zasluzhennyy deyatel' nauki
KazSSR; MARIKOVSKIY, P.I., doktor biologicheskikh nauk, redaktor;
GUSEVA, N., redaktor; BARANOV, M., redaktor; KHIGIROVICH, I.,
tekhnicheskiy redaktor; ZLOBIN, M., tekhnicheskiy redaktor

[Our animals in photographs from nature] Nashi zhivotnye v fotogra-
fiiakh s natury. Alma-Ata, Kazakhskoe gos. izd-vo. Vol.2. 1949.
271 p. Vol.5. 1954 308 p.   (MLRA 9:10)
        (Kazakhstan--Zoology)

SALYUKOV, P.A., kand. biol. nauk; VERNIGOR, V.A., kand. sel'khoz.
nauk; KORMANOVSKAYA, M.A., kand. sel'khoz. nauk; GOLODNOV,
A.V.; SKOROBOGATOV, Yu.A., mladshiy nauchnyy sotr.;
MALLITSKIY, V.A., kand. sel'khoz. nauk;CHASHCHIN, B.V., kand.
sel'khoz. nauk; PONOMAREV, P.P., kand. tekhn. nauk;
BARMINTSEV, Yu.N., doktor sel'khoz. nauk; NECHAYEV, I.N.,
mlad. nauchnyy sotr.; POZDNYAKOV, P.M., kand. biol. nauk;
KOVIN'KO, D.A., kand. biol. nauk; BALANINA, O.V., kand.sel'-
khoz. nauk; MOISEYEV, K.V., kand. sel'khoz. nauk; ROMANOV,
P.F., kand. veter. nauk; PAL'GOV, A.A., kand.veter. nauk;
ANAN'YEV, P.K., kand. veter. nauk; VASIL'YEV, B.M., kand.
sel'khoz. nauk; ABDULLIN, V.A., kand. ekon. nauk;
GALIAKBEROV, N., laureat Gos.premii, kand. sel'khoz. nauk,
red.; GUSEVA, N., red.; NAGIBIN, P., tekhn. red.

[Reference book for zootechnicians] Spravochnik zootekhnika.
Pod red. N.Galiakberova. Alma-Ata, Kazsel'khozgiz, 1963.
492 p.   (MIRA 16:5)
        (Kazakhstan--Stock and stockbreeding)

LUCHKOV, S.; GUSEVA, N., red.; NAGIBIN, P., tekhn. r a.

[We have reached 79 and 16] Imeem 79 i 16. Alma-Ata,
Kazsel'khozgiz, 1962. 26 nos. in 1 v. 10 p.
                                        (MIRA 17:1)
1. Glavnyy zootekhnik Dzhambulskogo sveklosovkhoza, Kazakh.
SSR (for Luchkov).

AFANAS'YEV, K., svinar'; GUSEVA, N., red.; NAGIBIN, P., tekhn. red.

[Twelve centners of meat from each brood sow] 12 tsent-
nerov miasa - na osnovnuiu svinomatku. Alma-Ata, Kazsel''-
khozgiz, 1962. 26 nos. in 1 v. 14 p.   (MIRA 17:1)

1. Sovkhoz No.4 Karagandinskoy oblasti Kazakh.SSR (for
Afanas'yev).

PETROV, V., kand. vet. nauk; RED'KO, A., veter. vrach; GUSEVA,N.,
     red.; NAGIBIN, P., tekhn. red.

[Antibiotics and biogenic stimulators in animal husbandry]
Antibiotiki i biostimuliatory v zhivotnovodstve. Alma-Ata,
Kazsel'khozgiz, 1962. 26 nos. in 1 v. 14 p.
                                        (MIRA 17:1)

ABISHEV, A., zasl. vet.vrach Kaz.SSR; GUSEVA, N., red.; NAGIBIN, P.,
    tekhn. red.

[Animal castration according to the A.A.Baiburtsian method]
Kastratsiia zhivotnykh po metodu A.A.Baiburtsiana. Alma-
Ata, Kazsel'khozgiz, 1962. 26 nos. in 1 v. 14 p.
                                              (MIRA 17:1)

ALYBAYEV, Arykbay: GUSEVA, N., red.; NAGIBIN, P., tekhn. red.

[Our resources] Nashi rezervy. Alma-Ata, Kazsel'khozgiz, 1962. 26 nos. in 1 v. 14 p. (MIRA 17:1)

GOLODNOV, A.; GUSEVA, N., red.; NAGIBIN, P., tekhn. red.

[Sheep raising as a basic source of meat production]
Ovtsevodstvo - osnovnoi istochnik proizvodstva miasa.
Alma-Ata, Kazsel'khozgiz, 1962. 26 nos. in 1 v. 22 p.
(MIRA 17:1)

MERKULOV, V.; GUSEVA, N., red.; NAGIBIN, P., tekhn. red.

[Recent developments in wages for stock raisers] Novoe v
oplate truda zhivotnovodov. Alma-Ata, Kazsel'khozgiz, 1962.
26 nos. in 1 v. 25 p.   (MIRA 17:1)

GOVAR, M., kand. ekon. nauk; GUSEVA, N., red.; NAGIBIN, P.,
     tekhn. red.

     [Ways for reducing the cost of meat] Puti snizheniia sebe-
     stoimosti miasa. Alma-Ata, Kazsel'khozgiz, 1962. 26 nos.
     in 1 v. 14 p.   (MIRA 17:1)